5

10

ABSTRACT

A multi-mode wireless device on a single substrate includes an analog portion and a digital portion integrated on the single substrate. The analog portion includes a cellular radio core; and a short-range wireless transceiver core. The digital portion integrated on the substrate includes a reconfigurable processor core coupled to the cellular radio core and the short-range wireless transceiver core, the reconfigurable processor adapted to handle a plurality of wireless communication protocols. The digital portion also includes a high-density memory array core coupled to the reconfigurable multi-processor core.